U. S. NEWS & WORLD REPORT

16 SEP 1974

SATELLITES, PLANES, SHIPS. . . AMERICA'S NETWORK OF "SPIES"

Most military intelligence gathered by the U. S. today is not the work of cloak-and-dagger spies but of satellites circling the Earth thousands of miles in space.

Essentially, there are five types of satellites designed to keep the U. S. abreast of developments in trouble spots—and potential trouble spots—around the world.

"Big Bird"—its real name is classified—has been orbiting since 1971. It scans broad land areas with a wide-angle camera and radios what it sees back to ground stations. A second giant narrow-angle camera is turned on targets of special interest for close-up pictures.

"Big Ear" listens to military and other electronic communications, storing the data in a memory bank for later transmission to the ground.

Project 647 satellites sweep around the Earth in 20,000-mile-high orbits. They carry heat sensors to detect nuclear blasts and rocket firings, and long-range television cameras to flash instant pictures back to intelligence centers on Earth.

Vela satellites are also concerned with nuclear explosions, but their radiation sensors are designed to detect blasts from the Earth's surface to as far out in space as 100 million miles or more. The Vela orbit is more than 70,000 miles up. Four of them fly a common orbit that keeps the Eurasian land mass under constant surveillance.

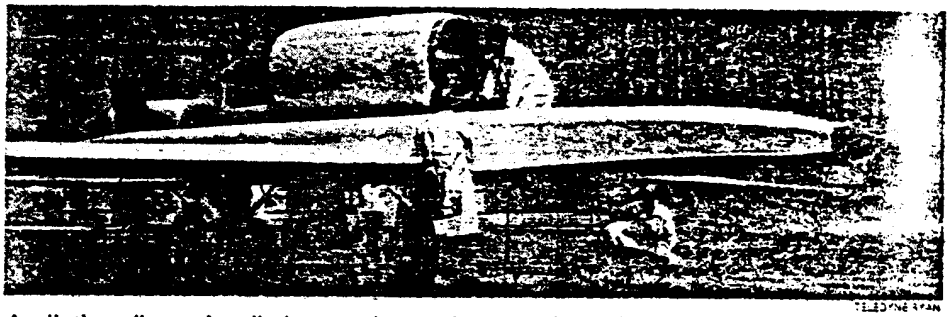
DMSP satellites are operated by the Defense Meteorological Satellite Program. They are situated around the world on a constant orbit, so that the Defense Department has 9 a.m. and noon readings of the weather everywhere. These data are made available to the National Oceanic and Atmospheric Administration for civilian weather reports, but prime use of the information is made by the military.

Other "spies." Besides satellites, there are other technological innovations in the spy game.

Seismographs, after years of experiments, play a big role in keeping track of Russian and Mainland Chinese underground nuclear tests.

Aircraft, less expensive than the satellites, are also used. EC-121 converted cargo planes and similar aircraft carry out flights of six hours or longer over international waters and friendly territory while their crews monitor radios and radars deep within Communist and other countries.

The SR-71, a supersecret jet that holds both speed and altitude records, can take pictures with normal light and infrared cameras up to 50 miles inside a nation without crossing its borders.



A pilotless "spy plane"—latest advance in technological revolution. This U. S. drone, recently unveiled, can fly over long distances to photograph intelligence targets.

Drone planes, flying without a pilot and directed from the ground, proved highly effective in Southeast Asia and are now replacing satellites and piloted planes on many missions.

Around the world, U. S. ships monitor radios and other electronic emissions. These ships were within "listening" distance when the fighting was going on between India and Pakistan, between Israel and its Arab neighbors, and on the island of Cyprus.

But the great bulk of technical intelligence is gathered on the ground.

On every continent, "listening posts" manned by National Security Agency experts monitor radio and Morse-code transmissions, even TV broadcasts.

Where it goes— All of this information eventually finds its way back to Central Intelligence Agency headquarters in Langley, Va., across the Potomac from the nation's capital. There the latest computers and other electronic equipment shuffle and fit the information together until it forms a mosaic of the military capabilities of Russia, Communist China, Cuba—and others.

The U. S. isn't alone in this intelligence effort. Russia and, to a lesser extent, Communist China have their own technical weapons.

A Soviet ship usually accompanies a U. S. naval flotilla, keeping an electronic "ear" on the situation. The Soviets' bombers, crammed with electronic and photographic sensors, make routine flights along the American East Coast. And Russia has its spies in space.

It is generally conceded that U. S. military leaders know exactly how many nuclear missiles the Russians have deployed and how many missile tests and nuclear explosions Russia and China conduct each year.

Some observers say that the U. S. can even pinpoint the location of every Soviet aircraft, ship and submarine—24 hours a day.

The cost of all this is high. It's a Government secret, but some informed observers say that the price of U. S. intelligence now runs up to 6 billion dollars a year—about 80 per cent of it spent on technical intelligence.

On the Russian side— U. S. officials, describing the marvels of satellite photography, use this example of how good the Russian system is.

When the U. S. was planning the night raid on Son Tay in an effort to rescue POW's, the mission was rehearsed repeatedly at a replica of the North Vietnamese village built at Eglin Air Force Base in Florida.

Each day, it has now been made known, the village had to be torn down so that Russia's satellite cameras would not spot the thatched roofs.